

### Cumulative Review 3 (3H)

Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

**Factor the following polynomials. Use identities if necessary.**

1.  $x^3 - 6x^2y + 12xy^2 - 8y^3$

2.  $2x^2 + 21x + 40$

**Use the given zeros to write a polynomial function with the given degree.**

3. Degree 4 , zeros: 2, -3, and  $2 + i$

**4. Describe the end behavior of the polynomial using limits. (Write limit properly!)**

$$f(x) = -x^5 + 3x^4 - 7x^3 - 2x^2 + x - 8$$

Right end behavior: \_\_\_\_\_

Left end behavior: \_\_\_\_\_

**Simplify each expression.**

5.  $(x^2 - 2x + 7) - (2x - 4)$

6.  $(x^2 - 2x + 1)(x - 4)$

**Solve the following equations.**

7.  $3 = 4(n - 1) + 7$

8.  $5r^4 = 405$